

For end of year 2016

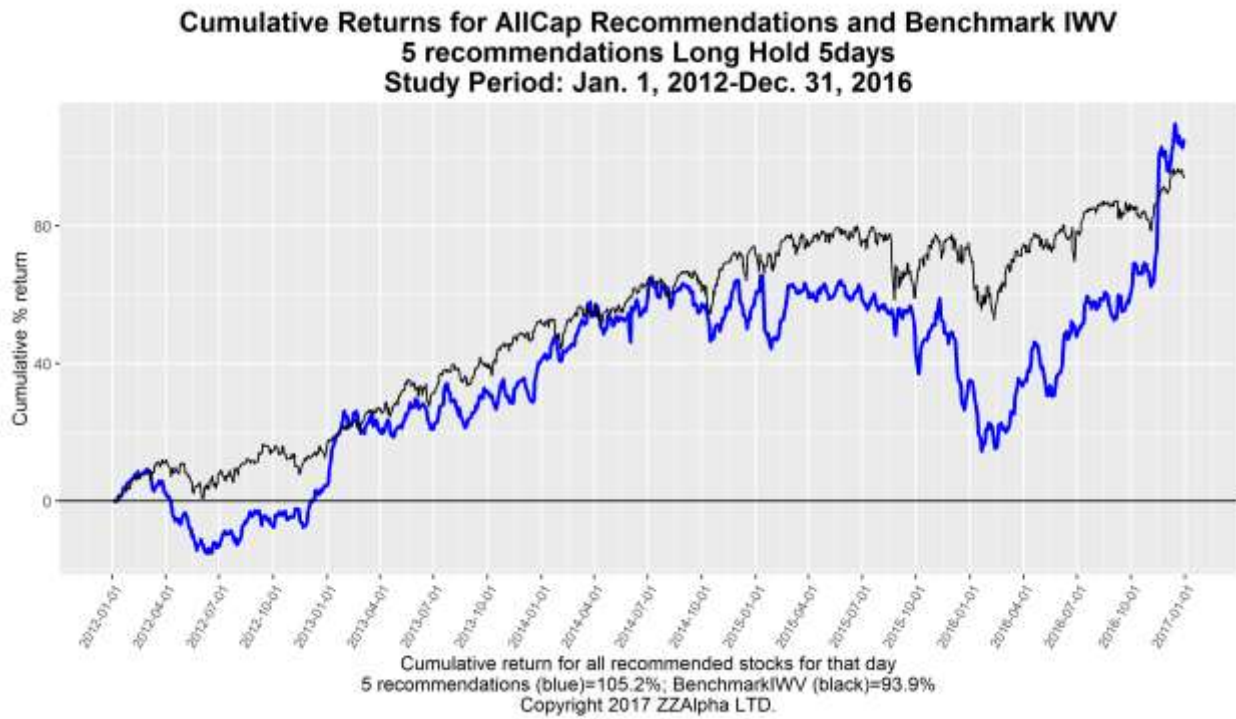
Capitalization Range Groups - Results graphs for 5 certified ZZAlpha® recommendations daily for past 5 years

The ZZAlpha® machine learning algorithm created recommendations for Long that obtained significantly better results than those for Anti-long. Inspection of the eleven graphs below shows that in 3 (AllCap, 2-250m cap, 20-1000m cap) the Long recommendations beat the Anti-Long recommendations in all 5 years. In 2 (250-1000m cap, 5B+ cap), the Long recommendations beat the Anti-Long recommendations in 4 of the 5 years. In 2 (1B+ and 1-5B), the Long recommendations beat the Anti-Long recommendations in 2 of the 5 years.

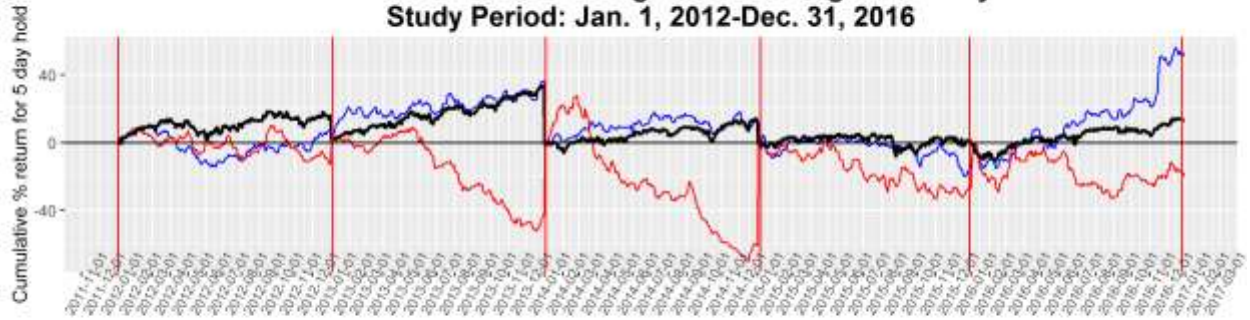
5 of the groups substantially beat their benchmarks over 5 years. 2 of the groups underperformed the benchmark.

All results are net of \$8 per trade commission costs and assume a \$1m starting asset under management. The benchmarks have no commission costs.

We use "Anti-Long" instead of short because short implies the availability of short shares to borrow, which shares may not be fully available to any or some investors. "Anti-Long" shows the effect of buying shares that are recommended to *decline* in price, and permits comparison of the effectiveness of the machine learning technique in separating stocks likely to rise in price from stocks likely to decline in price over the 5 day hold period.



**Cumulative Returns for AllCap Recommendations and Benchmark IWW**  
**5 recommendations Long and Anti-Long Hold 5 day**  
**Study Period: Jan. 1, 2012-Dec. 31, 2016**



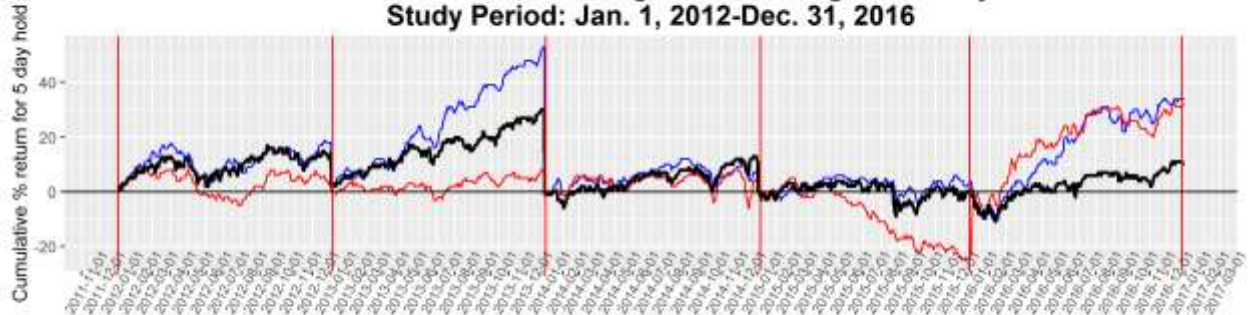
Cumulative return for all recommended stocks for that day  
 5 recommendations Long(blue); 5 recommendations Anti-Long(red); Benchmark IWW (black)  
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**Cumulative Returns for Cap\_5B+ Recommendations and Benchmark ^RUI**  
**5 recommendations Long Hold 5days**  
**Study Period: Jan. 1, 2012-Dec. 31, 2016**



Cumulative return for all recommended stocks for that day  
 5 recommendations (blue)=161.0%; Benchmark ^RUI (black)=76.4%  
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**Cumulative Returns for Cap\_5B+ Recommendations and Benchmark ^RUI**  
**5 recommendations Long and Anti-Long Hold 5 day**  
**Study Period: Jan. 1, 2012-Dec. 31, 2016**



Cumulative return for all recommended stocks for that day  
 5 recommendations Long(blue); 5 recommendations Anti-Long(red); Benchmark ^RUI (black)  
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**Cumulative Returns for Cap\_1-5B Recommendations and Benchmark ^MID**  
**5 recommendations Long Hold 5days**  
**Study Period: Jan. 1, 2012-Dec. 31, 2016**



Cumulative return for all recommended stocks for that day  
 5 recommendations (blue)=7.9%; Benchmark^MID (black)=87.0%  
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**Cumulative Returns for Cap\_1-5B Recommendations and Benchmark ^MID**  
**5 recommendations Long and Anti-Long Hold 5 day**  
**Study Period: Jan. 1, 2012-Dec. 31, 2016**



Cumulative return for all recommended stocks for that day  
 5 recommendations Long(blue); 5 recommendations Anti-Long(red); Benchmark ^MID (black)  
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**Cumulative Returns for Cap\_1B+ Recommendations and Benchmark ^RUI**  
**5 recommendations Long Hold 5days**  
**Study Period: Jan. 1, 2012-Dec. 31, 2016**



Cumulative return for all recommended stocks for that day  
 5 recommendations (blue)=48.2%; Benchmark^RUI (black)=76.4%  
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**Cumulative Returns for Cap\_1B+ Recommendations and Benchmark ^RUI**  
**5 recommendations Long and Anti-Long Hold 5 day**  
**Study Period: Jan. 1, 2012-Dec. 31, 2016**



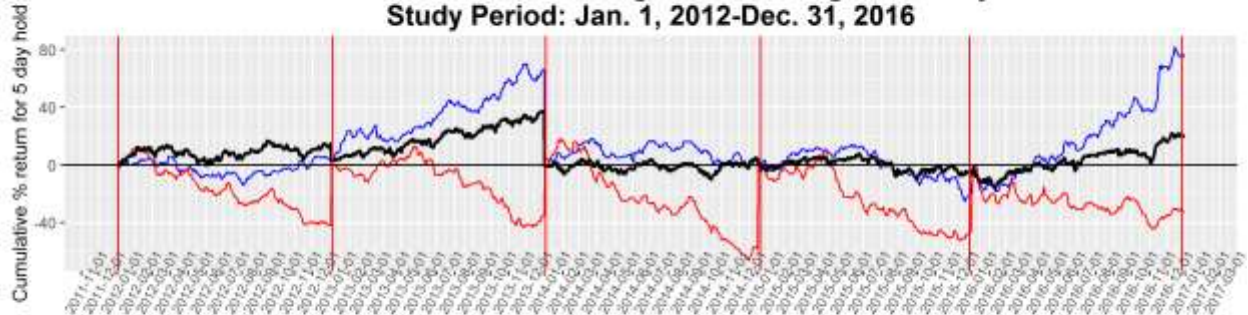
Cumulative return for all recommended stocks for that day  
 5 recommendations Long(blue); 5 recommendations Anti-Long(red); Benchmark ^RUI (black)  
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**Cumulative Returns for Cap\_20-1000m Recommendations and Benchmark ^RUT**  
**5 recommendations Long Hold 5days**  
**Study Period: Jan. 1, 2012-Dec. 31, 2016**



Cumulative return for all recommended stocks for that day  
 5 recommendations (blue)=136.5%; Benchmark^RUT (black)=80.4%  
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**Cumulative Returns for Cap\_20-1000m Recommendations and Benchmark ^RUT  
5 recommendations Long and Anti-Long Hold 5 day  
Study Period: Jan. 1, 2012-Dec. 31, 2016**



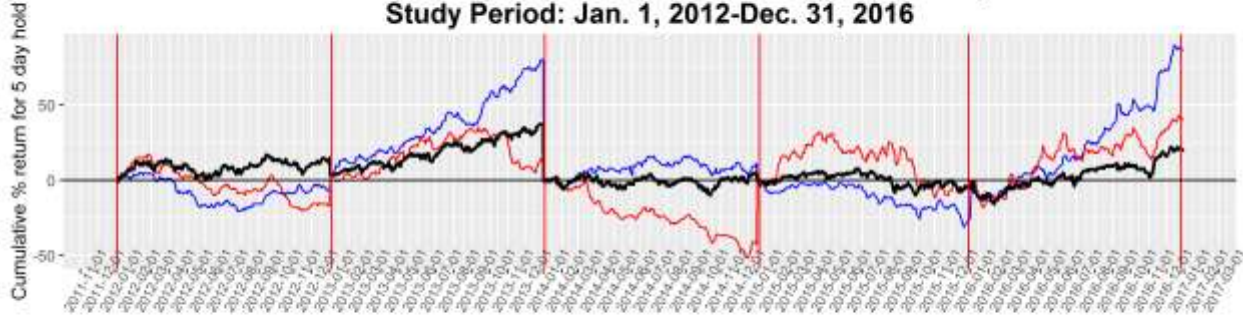
Cumulative return for all recommended stocks for that day  
5 recommendations Long(blue); 5 recommendations Anti-Long(red); Benchmark ^RUT (black)  
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**Cumulative Returns for Cap\_250-1000m Recommendations and Benchmark ^RUT  
5 recommendations Long Hold 5days  
Study Period: Jan. 1, 2012-Dec. 31, 2016**



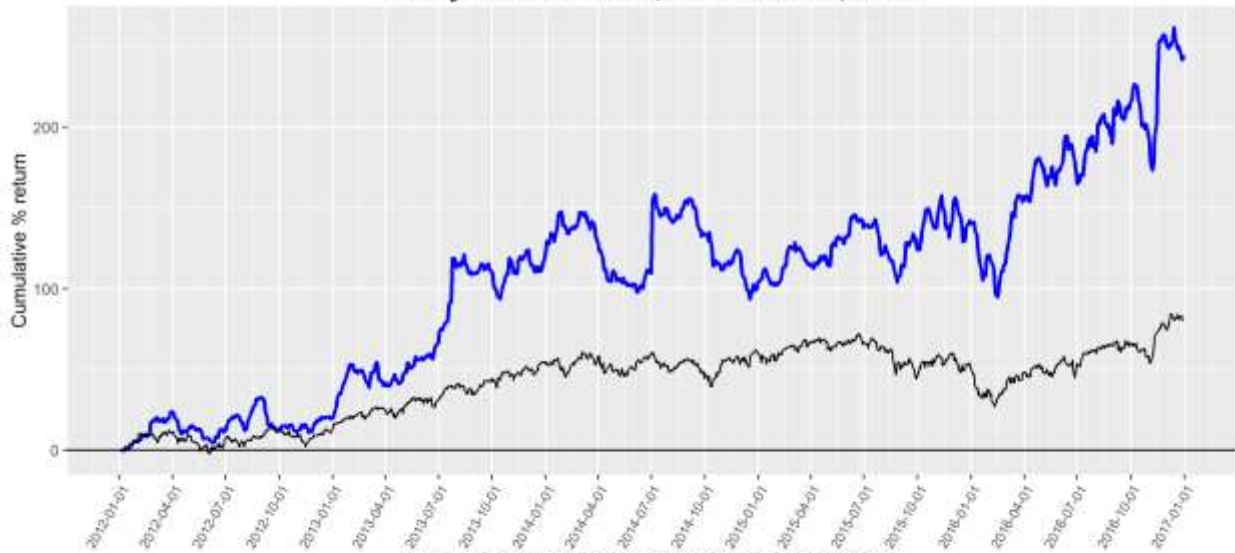
Cumulative return for all recommended stocks for that day  
5 recommendations (blue)=149.7%; Benchmark^RUT (black)=80.4%  
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**Cumulative Returns for Cap\_250-1000m Recommendations and Benchmark ^RUT  
5 recommendations Long and Anti-Long Hold 5 day  
Study Period: Jan. 1, 2012-Dec. 31, 2016**



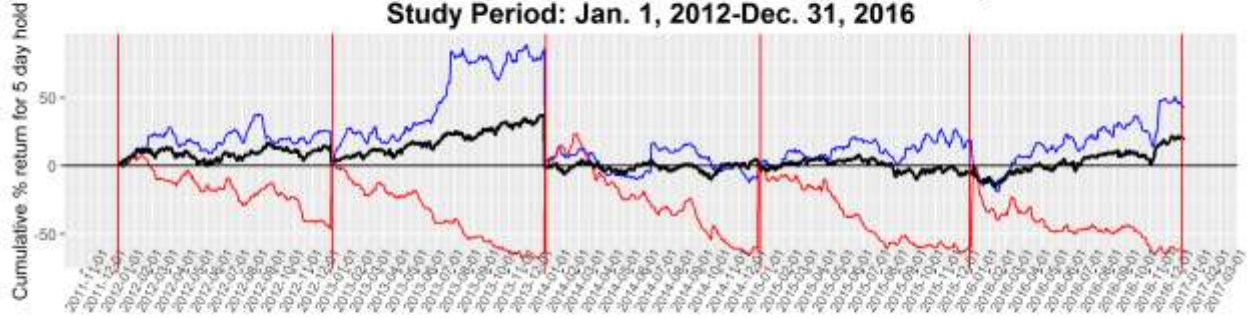
Cumulative return for all recommended stocks for that day  
5 recommendations Long(blue); 5 recommendations Anti-Long(red); Benchmark ^RUT (black)  
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**Cumulative Returns for Cap\_2-250m Recommendations and Benchmark ^RUT  
5 recommendations Long Hold 5days  
Study Period: Jan. 1, 2012-Dec. 31, 2016**



Cumulative return for all recommended stocks for that day  
5 recommendations (blue)=245.0%; Benchmark^RUT (black)=80.4%  
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**Cumulative Returns for Cap\_2-250m Recommendations and Benchmark ^RUT  
5 recommendations Long and Anti-Long Hold 5 day  
Study Period: Jan. 1, 2012-Dec. 31, 2016**



Cumulative return for all recommended stocks for that day  
5 recommendations Long(blue); 5 recommendations Anti-Long(red); Benchmark ^RUT (black)  
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